



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,332	10/20/2003	Goro Tamai	GP-302819	1376

7590 01/05/2006

CHRISTOPHER DEVRIES  
General Motors Corporation  
Legal Staff, Mail Code 482-C23-B21  
P.O. Box 300  
Detroit, MI 48265-3000

EXAMINER

BOTTORFF, CHRISTOPHER

ART UNIT PAPER NUMBER

3618

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/691,332	<b>Applicant(s)</b> TAMAI ET AL.	
	<b>Examiner</b> Christopher Bottorff	<b>Art Unit</b> 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

The amendment filed November 21, 2005 has been entered. Claim 11 is added and claims 1-11 are pending.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 9-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim 11 requires the first and second batteries to share a common electrical node, and claim 9 requires the first and second batteries and the DC/DC converter to share a common electrical node. This is not described in the specification. Moreover, Figure 1 suggests that these components do not share a common electrical node, but have individual nodes that are each connected by a common electrical line of coupling. For the purposes of examination, claims 9-11 have been interpreted as having a common line of coupling between these components.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 3618

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "said second battery" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Also, claim 11 recites the limitation "said first and second share" in lines 5-6. However, this limitation does not establish which components "share." For the purposes of examination, claim 11 has been interpreted as having the term "batteries" between "second" and "share" in line 6.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 2, 4, 5, and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Bolz et al. US 6,919,648.

Bolz et al. disclose a vehicle powertrain control system comprising an electric motor drive system ISG and inverter 1, a first battery B1 coupled to the electric motor drive system, an electronically controlled switch S3 coupled to the first battery B1, and a second battery B2 coupled to the electronically controlled switch S3. See Figure 4. The first and second batteries B1, B2 are directly electrically coupled when electronically controlled switch S3 is closed. See Figure 4. The electronically controlled switch S3 applies power from the second battery B2 to supplement the first battery B1. See column 7, lines 16-20.

A DC/DC converter 3 is coupled to the electronically controlled switch S3, wherein the electronically controlled switch S3 applies power from the DC/DC converter 3 to supplement the first and second batteries. That is, power in the DC/DC converter 3, which originates from second battery B2, will supplement first battery B1 when B2 is used to charge B1. See column 7, lines 16-20. Furthermore, power in the DC/DC converter 3, which originates from first battery B1 or the generator, will supplement the second battery B2 during charging of B2. See column 7, lines 13-16. DC/DC converter 3, first battery B1, and second battery B2 share a common electrical line of coupling, which converges at DC/DC converter 3, when the electronically controlled switch S3 is closed. See Figure 4. Also, the first and second batteries comprise lead acid batteries

Art Unit: 3618

and an inverter 1 is coupled to a motor of the motor drive system. See column 6, lines 27 and 44-45.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolz et al. US 6,919,648 in view of Rose, Sr. US 6,472,790.

Bolz et al. do not disclose that the motor is an induction type motor. However, Rose, Sr. teaches the desirability of providing the motor portion of a starter generator as an induction type motor. See column 5, lines 22-28, and column 1, lines 20-21. From this teaching of Rose, Sr., providing the motor portion of the starter generator of Bolz et al. as an induction type motor would have been obvious to one of ordinary skill in the art at the time the invention was made. This would utilize a motor type with performance characteristics that are well established and reliable.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolz et al. US 6,919,648 in view of Beyn US 4,687,983.

Bolz et al. do not disclose that the electronically controlled switch comprises a silicon conducting rectifier. However, Beyn teaches the desirability of providing an

Art Unit: 3618

electronically controlled switch as a silicon conducting rectifier. See column 5, lines 40-57. From this teaching of Beyn, providing the electronically controlled switch of Bolz et al. as a silicon conducting rectifier would have been obvious to one of ordinary skill in the art at the time the invention was made. This would utilize a switch type with performance characteristics that are well established and reliable.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolz et al. US 6,919,648 in view of Kodama et al. US 6,522,105.

Bolz et al. do not disclose that the electronically controlled switch comprises a transistor. However, Kodama et al. teach the desirability of providing an electronically controlled switch as a transistor. See column 13, lines 35-38 and 62-65. From this teaching of Kodama et al., providing the electronically controlled switch of Bolz et al. as a transistor would have been obvious to one of ordinary skill in the art at the time the invention was made. This would utilize a switch type with performance characteristics that are well established and reliable.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bolz et al. US 6,919,648 in view of Kenyon US 4,438,342.

Bolz et al. do not disclose that the electronically controlled switch comprises an electromechanical relay. However, Kenyon teaches the desirability of providing an electronically controlled switch as an electromechanical relay. See column 3, lines 63-68. From this teaching of Kenyon, providing the electronically controlled switch of Bolz

et al. as an electromechanical relay would have been obvious to one of ordinary skill in the art at the time the invention was made. This would utilize a switch type with performance characteristics that are well established and reliable.

### ***Response to Arguments***

Applicant's arguments filed November 21, 2005 have been fully considered but they are not persuasive.

Applicants assert that batteries B1 and B2 of Bolz et al. are not directly electrically coupled when switch S3 is closed. In the present invention, the coupling between batteries 16 and 18 when switch 20 is closed occurs through conducting members, including switch 20. Such coupling is only direct under a broad meaning of the term "direct" in which the presence of intermediary components is permitted. Similarly, the coupling of batteries B1 and B2 of Bolz et al. when switch S3 is closed occurs through conducting members, including switch S3 and DC/DC converter 3. Therefore, batteries B1 and B2 of Bolz et al. are directly electrically coupled to the same extent as batteries 16 and 18 of the present invention, and this is not disturbed by the presence of intermediary components such as DC/DC converter 3 in Bolz et al.

Applicants further contend that batteries B1 and B2 and DC/DC converter 3 of Bolz et al. do not share a common electrical node when switch S3 is closed. This newly claimed limitation is new matter since the relationship of these components to a common node is not disclosed in the present application. Moreover, Figure 1 depicts these components as each being connected to a common line that leads to motor drive



Art Unit: 3618

system 12 via separate lines that intersect the common line at respective nodes, rather than one common node. Similarly, batteries B1 and B2 and DC/DC converter 3 of Bolz et al. are each connected to a common line that leads to the motor drive system. Thus, batteries B1 and B2 and DC/DC converter 3 of Bolz et al. do share a common electrical connection when switch S3 is closed to the same extent as the components of the present invention.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

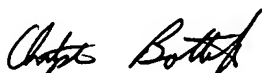
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3618

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Bottorff whose telephone number is (571) 272-6692. The examiner can normally be reached on Mon.-Fri. 7:30 a.m. - 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher Bottorff



CHRISTOPHER P. ELLIS  
SUPERVISOR/ PATENT EXAMINER  
TECH. DIVISION 3618